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Unity of Effort
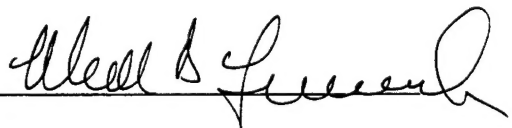A Comparison of OMFTS and Network Centric Operations

By

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Maritime Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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15. Abstract: In the five years since the Marine Corps released "Operational Maneuver From the Sea" (OMFTS) as its capstone operational concept, the Navy has yet to adopt a similar document. This inconsistency poses potential problems as the Naval Service attempts to transform itself for the future. However, the Naval Warfare Development Command has produced a draft operational concept called "Network Centric Operations" that could potentially meet the requirement for a complimentary concept to OMFTS.
    This paper reviews the concepts presented in OMFTS and identifies nine requirements that should be met by a complementary Navy operational concept. The paper then reviews "Network Centric Operations" and determines that it does meet those requirements. Though each operational concept has weaknesses, it is clear that both concepts follow similar concept development. This is important to tactical and operational commanders during future testing and development—assuming that "Network Centric Operations" is adopted by the Navy.

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Since its release, the white paper *Forward...From the Sea* has provided an enduring vision of the future of the Nation's naval mission. Reflecting the shift in the operational environment to the littoral and its impact upon the Naval Service, it has imparted a strategic concept of how the Navy and Marine Corps can and will support the Nation as directed by the National Security Strategy and National Military Strategy[1]. With their inherent ability to maintain a continuous forward presence, the Naval Service is on the cusp of having the unique (both historically and service related) capability to directly influence events ashore "anytime and anywhere".[2]

Five years ago, the Marine Corps released its capstone operational concept *Operational Maneuver From the Sea* (OMFTS): *A Concept for the Projection of Naval Power Ashore* in support of *Forward...From the Sea*. Combining maneuver warfare doctrine with advances in technology, OMFTS has provided the Marine Corps with a starting point for the development of new amphibious and expeditionary concepts that support the broad, strategic vision articulated in *Forward...From the Sea*. Addressing the Marine Corps' role as a component of the Naval Service's power projection capability, it is the only concept within the Service that provides both a coherent operational concept and an understanding of what needs to happen if it is to become operational reality.

As the Marine Corps moves into its next generation of concept development,[3] the Navy has yet to officially embrace a similar unifying document that articulates its operational concept and clearly identifies the areas that must change in support of *Forward...From the Sea*. Though a follow-on concept, *Forward...From the Sea: The Navy Operational Concept*, was successful at providing greater detail to the broad vision of its parent document, it failed to clearly articulate how the Navy is going to have to

change if it will successfully prepare itself for the demands of the littoral environment of the future.

Similarly, the Navy has not promulgated a supporting document to OMFTS. Though OMFTS may be considered a Marine Corps concept, it has obvious implications for the Navy since the existing nature of amphibious operations requires the cooperative efforts of both components of the Naval Service if they are to establish the most fundamental basis for success.

The absence of both a unifying Navy operational concept and a complementary concept to OMFTS presents a barrier to understanding how the Navy intends to orient itself for amphibious operations in the future. The Marine Corps has provided a comprehensive concept that has several challenges associated with it. Without the Navy perspective it is not obvious how the Navy will need to change its doctrine, force structure and training to support the OMFTS concept, or if OMFTS is even supportable. This impasse will only be further exasperated as the Marine Corps continues its evolution beyond the OMFTS concept.

The Naval Warfare Development Command has developed a draft Navy operational concept. Not yet signed, it is intended to provide the same unifying concept for the Navy that OMFTS has done for the Marine Corps. *Network Centric Operations: A Capstone Concept for Naval Operations in the Information Age* provides the Navy with its first comprehensive operational concept that identifies how it will meet the challenges of *Forward...From the Sea*. *Network Centric Operations* provides a concept that will, perhaps for the first time, permit the execution of maneuver warfare at the tactical and operational levels of war.[4]

This paper intends to provide a comparison of the two operational concepts. It will first identify the requirements that OMFTS generates for the Navy. It will examine *Network Centric Operations* and determine whether it meets those requirements.[5] It will also identify weaknesses to these concepts but will not specifically address the viability of either concept as a style of warfighting.[6] The intention is to identify whether the Navy and Marine Corps are proceeding on a complementary path as they transform themselves for tomorrow.

Maneuver Warfare

Before reviewing the two operational concepts in question, it is necessary to very briefly discuss maneuver warfare. Both the Navy and Marine Corps have formally adopted maneuver warfare as their preferred style of fighting. However, based upon what is available in doctrine, it is fair to say that the Marine Corps has a richer sense of what maneuver warfare is and how it is applied operationally than the Navy does.

The Navy has little doctrine that discusses maneuver warfare. The only publication that provides any amount of detail is *Naval Warfare* (Naval Doctrine Publication 1). A joint Navy and Marine Corps doctrine publication, it provides the reader with a vague description of maneuver warfare and how it applies to naval warfare or operations. *Warfighting* (Marine Corps Doctrine Publication 1), in contrast, provides an extensive discussion of the underlying concepts of maneuver warfare and its conceptual applicability to operations. In view of this disparity, the source used here is *Warfighting.**

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* There continues to be debate regarding the merits of maneuver warfare and attrition warfare and their appropriateness as a style of warfighting. This paper will not attempt to enter into that debate. It is sufficient here to accept that both the Navy and Marine Corps have declared their preference for maneuver warfare and determine what impact that will have on their respective operational concepts.

Warfighting describes the essence of maneuver warfare as "taking action to generate and exploit some kind of advantage over the enemy as a means of accomplishing our objectives as effectively as possible. That advantage may be psychological, technological, or temporal as well as spatial."[7] Of these advantages, the primary importance is the achievement of a time advantage by operating at a higher tempo than the enemy. This time advantage provides one with the ability to conduct operations at a faster pace than the enemy can operate at and therefore keep him off balance.[8]

Warfighting continues by defining maneuver warfare as "a warfighting philosophy that seeks to shatter the enemy's cohesion through a variety of rapid, focused, and unexpected actions which create a turbulent and rapidly deteriorating situation with which the enemy cannot cope."[9] The significance in this definition is the objective is not necessarily the physical destruction of an enemy but attacking its entire ability to deny us our will.

Though *Warfighting* does not provide a simple list of the principles of maneuver warfare, from these two passages and the discussion within doctrine one is able to identify at least four core principles that underlie maneuver warfare (Figure 1).[10]

How these four principles are applied during operations is dependant on the operational concept in question; in this case, the Marine Corps' OMFTS and the Navy's *Network Centric Operations*.

Operational Maneuver From the Sea

OMFTS is a deceptively complex concept that has broad tactical and operational implications for the Naval Service. It is deceptive because on first glance it appears to be

> **Principles of Maneuver Warfare**
>
> 1) The key to the systemic disruption of an enemy is endangering his center(s) of gravity and critical vulnerabilities.
> 2) Systemic knowledge of the enemy is mandatory if one is to disrupt him.
> 3) Attack from a position of strength against an enemy's weakness.
> 4) Operate at a higher tempo relative to that of the enemy in order to achieve a position of strength.

Figure 1

simply an evolutionary approach to amphibious warfare. It will use the "sea as a means of gaining advantage, an avenue for friendly movement that is simultaneously a barrier to the enemy,"[11] and "will couple [maneuver warfare] doctrine with technological advances in speed, mobility, fire support, communications, and navigation to identify and exploit enemy weaknesses across the entire spectrum of conflict."[12] The primary resulting change to amphibious operations will be the ability to move combat power from ships directly to objectives ashore, omitting the traditional operational pause to build-up combat power ashore before proceeding to follow-on objectives. Command and control, fires, logistics, and communications will remain afloat, in effect becoming the base of operations throughout the operation.

OMFTS, however, is much more than Ship to Objective Maneuver.[13] It is a fundamental retooling of amphibious operations in the littoral; a "marriage of maneuver warfare and naval warfare."[14] And though the Navy has formally adopted maneuver warfare as its preferred style of fighting, it has yet to develop the supplementary doctrine that explains how it will put it into practice. This is the complexity of OMFTS: an operational concept of maneuver warfare that is viable both on the sea and on the ground.

There are six principles of OMFTS. Figure 2 is provided to demonstrate the alignment of these principles of OMFTS to the principles of maneuver warfare. As is shown, there is little significant difference with the exception that OMFTS supports joint operations.

In support of these principles, OMFTS identifies three areas requiring significant change or improvement if it is to become operational reality: improving our operations, modernizing our capabilities, and strengthening our intellectual underpinnings. Only the first two areas are relevant to this paper; the last area will not be discussed.

OMFTS Principles Compared to Maneuver Warfare Principles	
OMFTS Principles	**Related Maneuver Warfare Principles**
1) Focus on operational objective.	1) Endanger an enemy's center of gravity and critical vulnerabilities.
2) Uses the sea as maneuver space.	Not applicable.
3) Pits strength against weakness.	3) Pits strength against weakness.
4) Emphasizes intelligence, deception, and flexibility.	2) Systemic knowledge of the enemy.
5) Generates overwhelming tempo and momentum.	4) Operate at higher tempo.
6) Integrates all organic, joint, and combined assets.	No related principle.

Figure 2

Improving Operations

OMFTS addresses two primary areas for improving operations that are applicable to the operational level of war.* First, the unity of effort during amphibious operations must be improved. If maneuver warfare is to be successful in amphibious operations in the littoral, there is a need to review the traditional demarcation during amphibious operations between the landward and seaward sides of the operation. In order to generate

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* OMFTS also discusses additional improvements or changes to operations, but the author considers them primarily issues that deal with the tactical level of war vice the operational and therefore not relevant to the topic. For example, the operational changes to the way we maneuver from ships to objectives ashore is a

the tempo required during maneuver warfare, OMFTS requires that the battlespace be considered as a whole throughout the operation. Even more than exists in operations today, the Navy and Marine components of the operation must act as a single entity with the sole objective of achieving the operational effect desired of the enemy.

This presents implications to existing command and control doctrine and its structure during an amphibious operation.[15] Since OMFTS is predicated upon the line of operations originating at a base of operations afloat, the traditional roles of the ground commander (Commander Landing Force) and afloat commander (Commander Amphibious Task Force) are now questionable. The ground force commander may desire to remain afloat to maintain situational awareness since the majority of the communications capabilities will remain there.

The second area for improving operations at the operational level will be the ability to apply OMFTS across the spectrum of conflict. OMFTS is intended to be a concept that is applicable anytime Marines are required ashore, not just a forcible entry capability during times of conflict. This is an ambitious goal that has generated considerable debate on the subject.[16]

OMFTS as a concept does not provide practical descriptions of the types of operational objectives that are suited for OMFTS. Nor does it define the size of force that can be wielded in OMFTS. These omissions are both interrelated. If one considers the force structure changes that OMFTS implies[17], there is considerable reason why the concept purposely remains vague in this area. To conduct OMFTS using a Marine Expeditionary Brigade or larger size force will require significant changes in the way

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tactical concern, as well as the platforms that will be used. This isn't to suggest that these changes are not critical to the concept; without them, the ability to execute this concept is in jeopardy.

these forces are traditionally inserted into combat. The size and shape of future amphibious ships and Maritime Prepositioning Ships (MPS) force structure will require considerable redrawing since the existing and the currently projected force structure cannot support OMFTS as described.[18]

On the low end of the spectrum of conflict (e.g. missions other than war), it is uncertain whether the principles of maneuver warfare are equally applicable as during combat. For example, during humanitarian operations, maintaining a higher operational tempo than the people you are attempting to assist seems contradictory. One would assume that friendly forces would desire to operate in concert with the host people. Again, this is an issue within OMFTS that requires greater clarification.

Modernizing Our Capabilities

OMFTS identifies numerous capabilities that must be improved. First, OMFTS requires improved intelligence capabilities that provide greatly increased information and knowledge on potential enemies. The Navy's and Marine Corps's intelligence capabilities must be able to assist in the identification of the enemy's center(s) of gravity and critical vulnerabilities and provide information and knowledge on the enemy at a tempo that supports the maneuver of forces in the battlespace. This is a demanding requirement of the intelligence communities.

The second requirement is the improvement in command and control capabilities. Due to the tempo of operations, the command and control structure and the supporting communications architecture must be designed to support rapidly maneuvering, dispersed units. This capability improvement is also directly related to the improvement in command and control operations and will necessarily need to develop in parallel.

Third, improvements to tactical and operational fires capabilities must be made. Whether in support of defeating an enemy's attempt to deny Naval forces from entering or operating in the battlespace or in support of forces maneuvering ashore, OMFTS requires that the range, coordination, and flexibility of fires must reflect the principles of maneuver warfare.

Finally, the Navy and Marine Corps must improve its mine countermeasure capabilities. Mines have historically threatened amphibious operations and are projected to do so in the future. Countering this area denial capability is then crucial to the successful implementation of OMFTS.

The weakness in these required improvements in capabilities, however, is that OMFTS provides little discussion on the relative necessity of meeting these improved capabilities. Are these improved capabilities absolute necessities, any of which will prevent the application of OMFTS? Or must the Services' enjoy a relative superiority in these capabilities as compared to what a potential adversary might employ? This issue requires resolution since it calls into question the entire stability of OMFTS and maneuver warfare as a whole.

OMFTS Summary

OMFTS generates several requirements that should be addressed during the development of a complementary Navy operational concept. (Figure 3) This is not to suggest that OMFTS is flawless and these requirements are absolute. There are several areas that OMFTS does not adequately address and require greater conceptual development, such as the force structure changes it foresees, the level or measure of improvement in capabilities that it says are required, and how it can be applied in the low

end of the spectrum of conflict.   Still, OMFTS is not doctrine, its is a concept, a

beginning to the "process of proposal, debate, and experimentation."[19]

Requirements Generated by OMFTS
1) Embody the principles of maneuver warfare. 2) Support joint operations. 3) Improve unity of effort. 4) Support Ship-to-Objective Maneuver. 5) Relevant across the spectrum of operations. 6) Improve intelligence capabilities. 7) Improve command and control and the supporting communications architecture. 8) Improve tactical and operational fires capabilities. 9) Improve access to the battlefield, specifically countering the mine threat.

Figure 3

Network Centric Operations

"Network Centric Operations can be broadly described as deriving power from

the rapid and robust networking of well-informed, geographically dispersed warfighters.

They create overpowering tempo and a precise, agile style of maneuver warfare. Using

effects-based operations, the aim is to sustain access and to decisively impact events

ashore. Network Centric Operations focus on operational and tactical warfare, but they

impact all levels of military activity from the tactical to the strategic."[20]

So *Network Centric Operations* describes itself. It is a marriage of naval

maneuver warfare and the ongoing conceptual development of Network Centric

Warfare.[21] The result being, as one might expect, a concept that will require a fairly

significant reorientation of the Navy in terms of force structure, capability, training and

doctrine. It would seem fair to describe the concept as a fundamental shift in the Navy's

warfighting philosophy.

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This shift stems from the extraordinary changes in the ways that information and knowledge are acquired, distributed, processed, shared, accessed and used. These changes have resulted in a completely new environment for the interaction among people and that has dramatic implications for the military of the future.[22] For war is fundamentally about people and organizations interacting and making decisions and influencing that process to your advantage. And "Network-centric warfare is about human and organizational behavior."[23] That is the framework that Network Centric Warfare operates from and provides the origins for *Network Centric Operations*.

Network Centric Operations consists of four supporting concepts: Information and Knowledge Advantage; Assured Access; Effects-Based Operations; and Forward Sea-Based Forces.

Information and Knowledge Advantage

Though the four supporting concepts are interrelated, it is clear that the continuity of *Network Centric Operations* is based upon achieving Information and Knowledge Advantage. It is the glue that holds the entire concept together; without it, it is questionable how stable the concept remains.

As cast by *Network Centric Operations*, the battlefield of the future will be one where the adversary who is able to achieve a relative information and knowledge superiority will have a significant, and possibly, decisive advantage. The highest priority for the Navy, the concept suggests, is to ensure that the "Navy After Next"[24] is able to obtain and maintain that superiority.

Achieving Information and Knowledge Advantage will require tremendous effort.

First, it will require a new understanding of the types of information and knowledge that the warfighter requires; enemy orders of battle will no longer suffice. Instead, the warfighter will require an understanding of "the enemy's culture, values, and the modes of operation."[25] In addition, the warfighter will require unprecedented real-time information and knowledge of the battlespace in the very difficult operational environment of the littoral. The intention is to achieve a systemic understanding of the enemy that will be the basis for conducting Effects-Based Operations (discussed shortly).

Second, it will require extensive changes in the military's information infrastructure, including the sensors, systems and platforms that collect, distribute and interpret the information the warfighter requires. "An extensive network of battlefield sensors will provide the real-time explicit information update that complements the warfighters' implicit historical knowledge."[26]

It will also require organizational structure changes that better support the command and control of the warfighters during high tempo operations in an information and knowledge rich arena. "To more directly connect the warfighter to the commander, the command organization will need to be flatter. Information that traditionally has flowed linearly along command lines will flow horizontally throughout the force to provide the basis for common awareness."[27] This simple comment suggests that fairly extensive restructuring of command and control structures may be necessary to fully leverage the capabilities that Information and Knowledge Advantage provides.

Assured Access

The next supporting concept to *Network Centric Operations* is Assured Access; access to the battlefield and access to shore-based infrastructure. Based upon current

trends, the accessibility of bases overseas for our military during times of crisis will not be certain. This will result in an ever-growing reliance on forces that can sustain themselves without the need of shore-based infrastructure or can seize required shore-based infrastructure as the situation dictates; traditional Navy capabilities. Access assurance then, is the ability to both conduct operations in the areas of our choosing and to project power ashore; conversely, it is the ability to defeat the attempt by an adversary to counter that access.

In order to meet this challenge, access assurance operations will use "Information and Knowledge Advantage, maneuver, and effects-based targeting...as quickly as possible to destroy or neutralize threats at their source."[28] With the unprecedented battlefield awareness available due to Information and Knowledge Advantage, the naval force of the future will use a combination of stealth, deception, operational maneuver, speed, and precision weapons to neutralize the threat to our forces as they prepare to move into the littoral and project power ashore.

Effects-Based Operations

Consistent with the principles of maneuver warfare, Effects-Based Operations is the systemic targeting of the enemy in all three domains of war: belief (enemy's leadership, unit cohesion, morale); reason (his situational awareness, communications and command and control); and physical (his forces and facilities). Effects-Based Operations also "emphasizes rapid maneuver that creates unacceptable change from the adversary's perspective".[29]

With the battlefield and historical awareness of the enemy that Information and Knowledge Advantage provides, friendly forces can identify the decisive effect that will

most disrupt the enemy. That effect may be the physical destruction of some element of the enemy or his dislocation due to rapidly maneuvering forces jeopardizing one or a series of critical vulnerabilities or perhaps even his center of gravity. Effects-Based Operations is not about weapons, though weapons are a part of it; it is about achieving the systemic disruption of the enemy.

Forward Sea-Based Forces

The final supporting concept to *Network Centric Operations* is Forward Sea-Based Forces. It leverages the unique advantages that the sea affords to naval forces, such as operational mobility, security, and limited legal constraints. "Land forces are increasingly turning to sea-based forces to improve their own agility and survivability."[30] Concurrently, the ability for the Naval Service to influence events farther ashore is improving. The concept maintains the momentum of these trends and provides a means where ground forces can operate ashore without the traditional requirement for the establishment of extensive infrastructure.

Logistics, battlespace sensing, fires, defense, and command and control will continue to migrate to platforms afloat, freeing the ground commander from having to defend this infrastructure ashore. Naval forces operating forward will have the Information and Knowledge Advantage and power projection and information operations capabilities to influence events ashore throughout the spectrum of operations while retaining "agility to deal with a wide range of possible future challenges, including a blue-water peer competitor."[31]

Network Centric Operations Summary

A bold, wide-ranging, possibly revolutionary, concept, Network Centric Operations has extensive implications for the Navy's force structure, doctrine, organization and training. Its primary strengths lie in its cohesiveness and adaptation of maneuver warfare. However, it has some weaknesses. It does not define the level of improvement in our capabilities that must be met to ensure its success as a concept. Is it sufficient to achieve a relative superiority compared to the enemy? If so, how much more? Or is there an absolute level of capability required?

In addition, the concept states that it is sufficiently agile to support the full spectrum of operations, but does not clearly indicate how it will do so. As noted earlier, it is not clear if the principles of maneuver warfare apply equally to operations other than war as they do to combat.

Finally, there is some concern regarding the dominance that Information and Knowledge Advantage has in the overall concept. Every other supporting concept is predicated, at varying levels, on achieving Information and Knowledge Advantage. Considering Clausewitz's well-known disdain for relying on intelligence during war, the concept appears to be founded on obtaining knowledge of an enemy at a level that Clausewitz suggests is unreasonable when fog and friction are added to the equation. The concept needs to clarify the extent that Information and Knowledge Advantage is necessary and provide considerations to the operational and tactical commander for overcoming events if it is not achieved.

<u>*Network Centric Operations* and OMFTS Compared</u>

Figure 4 provides a comparison of the requirements of OMFTS and how *Network Centric Operations* meets them. As shown, there is clear continuity between the two concepts and demonstrates that the Navy and Marine Corps are following a similar path in their preparations for future operations.

OMFTS and *Network Centric Operations* Compared

OMFTS Requirements	Network Centric Operations Answer
1) Support maneuver warfare in the littoral.	1) NCO is a Navy operational concept of maneuver warfare.
2) Support joint operations.	2) Supports joint operations.
3) Improve unity of effort.	3) Improves unity of effort by providing Information and Knowledge Advantage throughout the Battlefield for all warfighters.
4) Support Ship-to-Objective Maneuver.	4) Forward Sea-Based Forces provides for expanded sea-based support for forces ashore.
5) Relevant across the spectrum of operations.	5) The agility of NCO supports current and potential range of operations.
6) Improve intelligence capabilities.	6) NCO foundation is an improved intelligence, sensing, systems, and organizational capabilities that will provide Information and Knowledge Advantage.
7) Improve command and control and supporting communications architecture.	7) NCO will leverage the advantages of networking and the infrastructure associated with Information and Knowledge Advantage to support a command and control structure that supports maneuver warfare.
8) Improve tactical and operational fires capabilities.	8) Combination of Access Assurance, Effects-Based Operations and Information and Knowledge Advantage will provide naval forces with unprecedented ability to decisively impact events ashore.
9) Improve access to the battlefield, specifically countering the mine threat.	9) Access Assurance supports the neutralization of an enemy's access denial capabilities in all means by combining operational maneuver, Information and Knowledge, and Effects Based Operations.

Figure 4

Conclusion

The Marine Corps took the lead five years ago in developing an operational concept that would prepare itself for the future of amphibious operations in the littoral.

OMFTS has spawned numerous supporting concepts[32] and demonstrated remarkable durability and continuity as a concept. It has paved a new path that provides a strong framework for the next evolution in Marine Corps conceptual development. Yet, OMFTS only provides one half of the naval perspective for amphibious operations. The Navy has been notably absent in providing a complementary operational concept with the same degree of detail and the potential to act as the foundation for subsequent and supporting concept development.

Network Centric Operations meets these requirements. It provides a concept that both meets the challenges laid out by OMFTS and also provides the framework that can support development of concepts that apply to all Navy operations. That is significant to all warfighters. It demonstrates that the Navy and Marine Corps are following a parallel path in their quest to transform themselves over the next several years. For the operational and tactical commanders, it serves notice that the testing, experimentation and doctrine development that will take place in the near future may be a coordinated, joint effort and provide a common framework to determine the strengths and weaknesses of the two concepts.

For both concepts are just those—concepts. They provide a basis for conducting experimentation, testing and evaluation. Both concepts are equally forthright in acknowledging that the path that each initiates may eventually lead to doctrine that bare little resemblance to its originator. This paper excepts that sensibility and has intended to validate the extent that each complements the other while refraining from conducting an extensive critique of either concept.

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OMFTS and *Network Centric Operations* complement each other extensively and provide a common framework for the eventual development of a joint "Naval Operational Concept".[33] Both concepts are concepts of maneuver warfare in the littoral. Both have come to the same conclusions regarding the capabilities that need to be improved to support future operations in this hazardous milieu.

Yet, both concepts have similar weaknesses that need to be addressed. First, there needs to be clarification on the measure of improvement in capabilities that will be sufficient to support the concepts. Second, there needs to be greater expression of how each concept supports operations on the low end of the spectrum of operations. Third, regarding, *Network Centric Operations*, there needs to be additional discussion on how to overcome a lack of Information and Knowledge Advantage if it is not achieved. As currently drafted, the concept seems to have a high degree of fragility due to the dominance that Information and Knowledge Advantage has to the whole.

The final, and perhaps most important weakness, is that *Network Centric Operations* remains in draft form. Nearly ten years after the release of the first ...*From the Sea*[34] white paper and five years after the Marine Corps released OMFTS, the Navy has yet to adopt an operational concept that provides clear direction for the future ahead. This presents potential problems especially considering that the Marine Corps is already preparing to move into the next generation of concept development. Until the Navy agrees on its first generation, it is not at all certain that the transformation the Naval Service is attempting to conduct will be a coordinated one--and that is a significant concern to operational and tactical warfighters alike.

NOTES

[1] "Forward...From the Sea" addresses the Naval Service's support to the Nation throughout the spectrum of crisis (peacetime presence, crisis response, and regional conflict) and their inherent ability to operate jointly or with coalition members. It also lists five fundamental and enduring roles in support of the National Security Strategy: projection of power from sea to land, sea control and maritime supremacy, strategic deterrence, strategic sealift, and forward naval presence. U.S. Department of the Navy, "Forward...From the Sea," (Washington, D.C.: September 1994), 10.

[2] Jay Johnson, "Anytime, Anywhere: A Navy for the 21st Century," U.S. Naval Institute Proceedings, November 1997, 48.

[3] OMFTS is in the process of being replaced as the Marine Corps' operational capstone concept by "Expeditionary Maneuver Warfare". This new concept is still being drafted, but is expected to be an evolved version of OMFTS. Based upon a copy of a Marine Corps Combat Development Command brief, it appears that any changes will be subtle and not entail a dramatic shift in Marine Corps conceptual direction. The primary change appears to be an expansion of the OMFTS concept to include alternative means for projecting and sustaining Marine combat power into the littoral besides the current means of amphibious shipping and Maritime Prepositioning Forces. Considering the limited anticipated changes, the author expects that the requirements that "Expeditionary Maneuver Warfare" generates for the Navy will very similar to those of OMFTS. Therefore, the results of the comparison here, using OMFTS as the Marine Corps capstone, should not be greatly affected by "Expeditionary Maneuver Warfare." However, until this new concept is released, it is only speculative what the impact will be on the Navy. James L. Jones, "Strategic Agility, Operational Reach, and Tactical Flexibility," U.S. Naval Institute Proceedings, February 2001, 2. U.S. Department of the Navy, "Expeditionary Maneuver Warfare," (Unpublished Brief, Marine Corps Combat Development Command, Quantico, VA: n.d.).

[4] Wayne P. Hughes, "Naval Maneuver Warfare," Naval War College Review, Summer 1997, 25-49.

[5] "Network Centric Operations" clearly states that it is complementary to OMFTS. Naval Warfare Doctrine Command, "Network Centric Operations: A Capstone Concept for Naval Operations in the Information Age," (Draft Concept, Naval Warfare Doctrine Command, Newport, RI: n.d.), 4. This paper will determine the validity of that statement by comparing what OMFTS requires of the Navy with the stated capabilities of "Network Centric Operations".

[6] The other styles of fighting are generally considered to be attrition warfare and revolutionary warfare. H.T. Hayden, ed., Warfighting: Maneuver Warfare in the U.S. Marine Corps (London: Lionel Leventhal, 1995), 21.

[7] U.S. Department of the Navy, <u>Warfighting</u>, Marine Corps Doctrine Pub 1, (Headquarters, U.S. Marine Corps, Washington, D.C: 20 June 1997), 72.

[8] Operating tempo is commonly associated with the "Boyd Cycle" named after Colonel John Boyd. Based initially upon his study of air-to-air tactics during the Korean War and subsequently applying his results to ground war cases, he derived a cycle of events that is common to all participant in conflict. His Observe, Orient, Decide, Act (or "OODA loop" in current vernacular) is the cycle that maneuver warfare attempts to accelerate so that it is faster than an enemy's. For an excellent discussion of the topic see: William S. Lind, <u>Maneuver Warfare Handbook</u> (Boulder: Westview Press, 1985), 4-8.

[9] Warfighting, (MCDP1), 73.

[10] Though there is certain to be some objection to these four principles for their oversimplification of maneuver warfare, the author feels they adequately portray the basic foundation for maneuver warfare. For a more extensive list of principles see Hayden, 193-194.

[11] "Forward...From the Sea," 3.

[12] ibid., 6.

[13] Refers to the tactical concept developed by the Marine Corps to support the operational concept of moving combat power directly from ships afloat to objectives ashore. Department of the Navy, "Ship-To-Objective Maneuver," (Marine Corps Combat Development Command, Quantico, VA: 25 July 1997).

[14] "Forward...From the Sea," 6.

[15] One of these implications is the relationship between the Navy and Marine Corps components during the amphibious operation. For a balanced review of this topic see: Timothy P. Massey, "Command and Control for Operational Maneuver From the Sea, Where Do We Go From Here?" (Unpublished Research Paper, U.S. Naval War College, Newport, RI: 17 May 1999). Another implication is the level of responsibility that subordinates may be provided in order to ensure tempo is not degraded by excessive communications between echelons. For a review of current concept development on this topic see: U.S. Department of the Navy, "Beyond C2: A Concept for Comprehensive Command and Coordination of the Marine Air-Ground Task Force," (Headquarters, U.S. Marine Corps, Washington, D.C.: 02 June 1998).

[16] For examples, see: Mark F. Cancian, "Where is OMFTS Going?" <u>Marine Corps Gazette</u>, June 1999, 22-24 and William A. Sayers, "OMFTS Impact," <u>Marine Corps Gazette</u>, September 1999, 48-50.

[17] Besides the necessary vehicles that the Marine Corps is developing to support OMFTS (e.g. MV-22 Osprey, Advanced Amphibious Assault Vehicle (AAAV) and Joint Strike Fighter), there is a desire to produce next generation Maritime Prepositioning Ships (MPS) that can support the movement of combat ready forces directly or nearly directly from these ships to objectives ashore. Currently, MPS are not designed to support that requirement. See U.S. Department of the Navy, "MPF 2010 and Beyond," (Headquarters, U.S. Marine Corps, Washington, D.C.: 30 December 1997).

[18] The current Naval Amphibious Warfare Plan is also predicated on conducting OMFTS using a MEB-sized force and having a future MPF structure that meets its requirements. It is not yet clear if these goals will be supported in the budgeting process. U.S. Department of the Navy, Naval Amphibious Warfare Plan (Washington, D.C: October 1999), 16, 26.

[19] OMFTS, 1.

[20] "Network Centric Operations", 1.

[21] A detailed discussion of the concept Network Centric Warfare is well beyond the scope of this paper. The following provide a great degree of insight into the origins and current development of the concept. Arthur K. Cebrowski, "Network Centric Warfare: An Emerging Military Response to the Information Age,"(Presentation at the 1999 Command and Control Research and Technology Symposium, U.S. Naval War College, Newport, RI, 29 June 1999); Arthur K. Cebrowski, "Military Responses to the Information Age," RUSI Journal, October 2000, 25-29; David S. Alberts, John J. Garstka, and Frederick P. Stein, Network Centric Warfare 2nd Ed. (Rev.) (Washington, D.C.: U.S. Department of Defense, C4ISR Cooperative Research Program, 1999). For a objective critique of Network Centric Warfare, see: Thomas P. Barnett, "The Seven Deadly Sins of Network Centric Warfare," U.S. Naval Institute Proceedings, December 1999, 28-32.

[22] Cebrowski, "Military Responses to the Information Age," 23.

[23] Cebrowksi, "Network Centric Warfare," 1.

[24] Refers to the fourth of "four Navies" first coined by Admiral Jay Johnson: "The Navy of history; the Navy that operates at sea today; the Navy that is being acquired today for use tomorrow (the Program Navy); and the Navy after Next, which will follow the Program Navy." Quoted from: Arthur K. Cebrowski and Wayne P. Hughes, "Rebalancing the Fleet," U.S. Naval Institute Proceedings, November 1999, 31.

[25] "Network Centric Operations," 7.

[26] ibid., 7.

[27] ibid., 9.

[28] ibid., 11.

[29] ibid., 11.

[30] ibid., 14.

[31] ibid., 14.

[32] In addition to "Ship-To-Objective Maneuver", "MPF 2010 and Beyond" and "Beyond C2" noted earlier, the following are some of the Marine Corps' warfighting concepts for the 21st Century. U.S. Department of the Navy, "The MAGTF in Sustained Operations Ashore," (Headquarters, U.S. Marine Corps, Washington, D.C.: 28 June 1998); U.S. Department of the Navy, "Advanced Expeditionary Fire Support," (Marine Corps Combat Development Command, Quantico, VA: 20 January 1998); U.S. Department of the Navy, "Future Military Operations on Urbanized Terrain," (Marine Corps Combat Development Command, Quantico, VA: 25 July 1997); U.S. Department of the Navy, "Future Naval MCM in Littoral Power Projection," (Marine Corps Combat Development Command, Quantico, VA and Naval Doctrine Command, Norfolk, VA: 01 May 1998); U.S. Department of the Navy, "Seabased Logistics," (Marine Corps Combat Development Command, Quantico, VA and Naval Doctrine Command, Norfolk, VA: 12 May 1998).

[33] Jones, 4.

[34] U.S. Department of the Navy, "…From the Sea," (Washington, D.C.: September 1992). The first white paper following the end of the Cold War, it provided the initial strategic direction for the Naval Service that "Forward…From the Sea" adapted two years later.

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